ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

"EXPLORING THE MODERATING EFFECT OF GENDER ON VOCABULARY LEARNING STRATGIES AND VOCABULARY ACHIEVMENT SCORES AT TERTIARY LEVEL IN PAKISTAN"

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Abstract
This study investigates the moderating effect of gender on vocabulary learning strategies and vocabulary achievement scores among high and low achievers. Utilizing SPSS and SMART PLS 4, the research aims to provide insights into the differential strategies employed by learners and their subsequent impact on achievement, while also considering the influence of gender. Data was collected from a sample of students, assessing their vocabulary learning strategies and corresponding achievement scores. Through statistical analysis, including regression and moderation analysis, the study reveals the nuanced relationship between gender, learning strategies, and achievement outcomes. Furthermore, it examines the distinct strategies utilized by high and low achievers, offering valuable insights into effective learning practices. Findings indicate that gender plays a significant moderating role in the relationship between vocabulary learning strategies and achievement, highlighting the need for tailored instructional approaches. Additionally, the analysis discerns specific strategies employed by high achievers, which differ from those utilized by low achievers, suggesting targeted interventions to enhance vocabulary acquisition. This research contributes to a deeper understanding of the complex interplay between gender, learning strategies, and vocabulary achievement, with implications for educational practice and policy.

INTRODUCTION

Learning vocabulary is crucial for understanding and using language effectively. It helps in communicating clearly and expressing thoughts accurately. Instead of just memorizing words, mastering vocabulary means knowing how to use them in real-life situations where they are relevant and useful. The way people learn new words affects how many words they know. For example someone who reads a lot might know different words than someone who talks to others more. Using good methods for learning words is linked to having a larger vocabulary, like building a strong building. Employing smart techniques, such as forming connections or practicing regularly helps in remembering words better. In school, it's important for students to learn the right way to learn languages. Understanding the proper steps to follow is crucial for success Ghazal, L. (2007). When students grasp these steps they can improve their language skills effectively. Using the correct strategies is essential for effective learning. These strategies act as helpful tools that assist students in understanding and remembering concepts

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more efficiently. By employing these strategies, learners can enhance their comprehension and retention abilities, making the language learning process smoother and more successful.For students who want to do well in learning languages it's important to know the best strategies. How students learn words really matters for how good they become and how much they remember. When students use good strategies for learning words they get better at speaking and remembering them. So, knowing the right strategies is really important for students who want to be successful in learning languages Ghazal, L. (2007).

In language learning, students can choose from different strategies that fit what they need and like. These strategies include things like saying things again and again, connecting words with pictures or ideas, imagining using the words in real situations, and learning from the context they're in. When students know about and use these different strategies well, it helps them get better at learning languages. So, by using these strategies in the right way students can make their language learning journey even better.Students can choose from various strategies in language learning each designed to suit different ways of learning and personal preferences. These strategies help students find the ones that suit them best making their language learning journey more effective and successful. These strategies fall into categories like social, memory, cognitive, and meta cognitive offering tools to improve understanding and memory while learning a language. By exploring and using these strategies, students can find the ones that work best for them, making their language learning experience more efficient and fruitful Teng, F. (2014).

According to Oxford (1989), these strategies are valuable for learners at any stage. Social strategies entail activities such as seeking assistance or engaging in practice sessions with peers, fostering collaborative learning environments. Memory strategies aid in the retention of new vocabulary or phrases, offering techniques like repetition or visualization to enhance recall. These strategies serve as essential tools for learners irrespective of their proficiency level facilitating effective language acquisition and retention.When students add social and memory strategies to their learning they create a helpful group for learning and improve their memory for new words and rules. By doing this, they get better at using the language which helps them become more skilled overall. when students use social activities and memory tricksit boosts their language skills and helps them learn better .Cognitive strategies are about how students understand language like taking apart sentences to understand them better. When students break down complicated language into smaller parts it helps them understand what it means more easily. By using these strategies learners can improve their comprehension and understand the language better.

Harmon, Woodand Kiser (2009) stress that learning vocabulary is an ongoing thing. It's not just about memorizing words but also about knowing how to use them in real life. Understanding words in everyday situations is a big part of learning vocabulary, according to their research.Chamot and Kupper (1989) mention that learners can make their language learning better by using the right strategies. These strategies might involve doing things like saying words again and again, connecting them with other words or ideas, and understanding them in different situations. According to their research, using these techniques helps learners get better at learning languages.Consistently using these methods helps learners understand and remember words better, which makes them better at the language overall. By learning new words regularly and using good strategies, learners can get better at learning a language. This helps them become more fluent and better at communicating.

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This process involves consistently using repetition to reinforce the memory of words and their meanings. As learners become more familiar with the vocabulary, they can then focus on refining their pronunciation, ensuring that they can articulate the words accurately. In addition to learning new words, learners also focus on understanding how sentences are put together correctly. This means they pay attention to how words fit together to make meaningful sentences. It is learning how to build with blocks, where each piece needs to fit in the right place to make a sturdy structure. By understanding grammatical structures, learners can make sure their sentences make sense and convey the message they want to express accurately. It's like laying a strong foundation for clear communication in the language they're learning.By becoming really good at both learning new words and understanding how sentences work, learners become great communicators in the language they're learning. It's like unlocking a door to express themselves freely and with confidence. When they've mastered these skills, they can say what they want to say clearly and without any confusion. It's like having all the tools they need to have smooth conversations and get their message across easily. So, by mastering these aspects, learners make it much easier for themselves to communicate effectively in the language they're learning.

Background of the study:

Acquiring a broad vocabulary is crucial for mastering a language because it improves communication skills. Knowing many words makes it simpler to express ideas clearly and confidently. Each new word learned is like adding a piece to the language puzzle, enabling better expression in various situations. Whether speaking or writing, a rich vocabulary helps convey thoughts accurately, facilitating better understanding by others.Learning new words is akin to adding tools to one's language toolbox, aiding in expressing ideas more effectively. With the acquisition of each new word, individuals enhance their ability to convey precise meanings. As the vocabulary expands, proficiency in communication across diverse scenarios improves, facilitating clearer expression in both spoken and written forms. Consequently, mastering new words enhances overall communication skills, leading to improved understanding and comprehension by others.

REVIEW OF RELATED LITERATURE

Griffiths, C. (2008). provided insights into Language Learning Strategies (LLSs), emphasizing the deliberate actions taken by students to improve their language learning experience. Oxford describes LLSs as intentional techniques employed by learners to make the process of understanding and remembering both language and related information more accessible. Put simply, when students learn a new language, they purposefully use specific methods or actions to aid their comprehension and memory of linguistic and content-based content. Similarly, Rubin characterizes LLSs as strategies directly influencing learning outcomes, actively contributing to the construction of the learner's language system. In straightforward terms, these are strategies that learners intentionally use to shape and enhance their language skills.

Cohen (1998) expands on the definition of learning strategies by including the concept of plans. According to Rubin, strategies involve any organized sets of operations, steps, plans, or routines that learners use while learning to enhance their understanding, learning, or memory of new information. In other words, Rubin emphasizes that strategies are not random actions but involve intentional and organized plans or steps that learners adopt during the learning process. Both Wenden and Rubin highlight the active and purposeful nature of learners

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in employing strategies, whether it be regulating their learning behaviors or implementing structured plans to enhance their understanding and retention of new language information.

Gu, Y. (2003). recognize the uncertainty surrounding the definition of learning strategies in second language learning. They point out that there is no agreement among experts on what exactly makes up a learning strategy and how it is distinct from other things learners do. Sometimes, talks about language learning, teaching, and communication strategies get mixed up, making it all confusing. What adds to the confusion is that even within the group known as learning strategies, the meanings of specific strategies and how they relate to each other in terms of importance are not very clear. This lack of clarity, as O'Malley et al. mention, makes it difficult to understand and sort these strategies effectively.

RESEARCH METHDOLOGY

The research was carefully planned out, with a clear structure and method. It happened in a specific location, involving certain people who took part in the study. The design of the study was thoughtfully crafted to answer the research questions. To gather information, data was collected using Quantitative method, and then carefully examined and interpreted to draw meaningful conclusions.

Research Design:

The research design employs a quantitative method to gather and analyze data. This method involves collecting numerical data through structured surveys or questionnaires. By using quantitative techniques, the researchers aim to quantify variables and examine relationships between them. This approach allows for statistical analysis to identify patterns, trends, and correlations within the data. With quantitative methods, researchers can measure the frequency or extent of certain behaviors, attitudes, or characteristics among the participants. The data collected can then be systematically analyzed using statistical tools to draw meaningful conclusions and make generalizations about the target population. Overall, the quantitative method provides a systematic and objective way to study phenomena within the research context, offering valuable insights into various aspects of the educational landscape in Okara district.

Procedure of Data analysis:

The data collected from the questionnaire distributed among 700 students will be analyzed using SPSS software. Various tests will be applied to investigate the moderation effect of gender on vocabulary learning strategies and vocabulary achievement scores. Through statistical analysis, we aim to uncover any potential interactions between gender and these variables. By employing appropriate tests within the SPSS software, such as moderation analysis and regression analysis, we will explore how gender may influence the relationship between vocabulary learning strategies and vocabulary achievement. This systematic approach will provide valuable insights into the role of gender in shaping vocabulary learning outcomes.

ANAYSIS AND DISCUSSION

Table 4.5

Correlations					
	gender of respondent	age of respondent	Class of respondent	Area of respondent	ability or skill

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gender of respondent	Pearson Correlation	1	-.083	.051	-.153**	-.102*
	Sig. (2-tailed)		.063	.255	.001	.022
	N	500	500	500	500	500
age of respondent	Pearson Correlation	-.083	1	-.071	-.135**	-.044
	Sig. (2-tailed)	.063		.113	.002	.327
	N	500	500	500	500	500
Class of respondent	Pearson Correlation	.051	-.071	1	-.018	.075
	Sig. (2-tailed)	.255	.113		.684	.092
	N	500	500	500	500	500
Area of respondent	Pearson Correlation	-.153**	-.135**	-.018	1	.066
	Sig. (2-tailed)	.001	.002	.684		.138
	N	500	500	500	500	500
ability or skill	Pearson Correlation	-.102*	-.044	.075	.066	1
	Sig. (2-tailed)	.022	.327	.092	.138	
	N	500	500	500	500	500

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Gender of Respondent: It has a significant negative correlation with the area of respondent (-0.153, $p < 0.01$) and ability or skill (-0.102, $p < 0.05$). This suggests that as gender changes, there are slight decreases in the area of respondent and ability or skill. Age of Respondent: There's a significant negative correlation with the area of respondent (-0.135, $p < 0.01$). This indicates that as age increases, there's a slight decrease in the area of respondent. Ability or Skill: It has a significant negative correlation with gender of respondent (-0.102, $p < 0.05$). This suggests that as ability or skill changes, there is a slight decrease in the gender of the respondent. Overall, these correlations indicate some weak relationships between the variables. It's important to note that correlation does not imply causation, and these relationships might be influenced by other factors not included in the analysis. Additionally, while statistically significant, the correlations are relatively weak, indicating that other variables not examined in this study may have stronger influences on these factors.

Moderation analysis

Moderation analysis is crucial in understanding the conditions under which certain relationships hold or vary. It helps to uncover nuances in the relationships between variables and provides insights into the conditions or contexts under which these relationships are stronger or weaker. By identifying moderators, researchers can better understand the complexities of the relationships among variables and make more accurate predictions or recommendations based on their findings.

In PLS path modeling, moderation is typically assessed by examining the interaction effects between the predictor variable, the moderator variable, and their product term. The interaction

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term represents how the effect of the predictor variable on the outcome variable changes as the moderator variable varies.

Table 4.6 Reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
V.achivement	-0.106	0.65	0.109	0.515
V.learning	0.441	-0.044	0.264	0.153

For "V. achievement": Cronbach's Alpha, Composite Reliability and Composite Reliability are within a reasonable range, indicating moderate to good internal consistency reliability. The Average Variance Extracted (AVE) is above 0.5, indicating good convergent validity. For "V. learning": Cronbach's Alpha and Composite Reliability are problematic as they have negative values, which are invalid.

Composite Reliability is also negative for "V. learning," indicating an issue with internal consistency reliability. The Average Variance Extracted (AVE) is below 0.5, suggesting poor convergent validity. In summary, there seem to be issues with the reliability and validity of the "V. learning" variable in this analysis, while the "V. achievement" variable shows better reliability and validity.

Table 4.7 Validity

	V. achievement	V. learning	Gender x V.learning
Gender			
V. achievement	0.165		
V. learning	0.363	0.383	
Gender x Learning	0.039	0.163	0.189

The table presents coefficients or values associated with each combination of variables.

The values in the table represent the strength and direction of the relationships between the variables.

The diagonal from top left to bottom right represents the main effects of each variable on itself.

The upper triangle represents the coefficients for the interaction effect between gender and the variables.

The lower triangle mirrors the upper triangle since the relationship is symmetric. For example, the value 0.165 in the intersection of "V. achievement" and "V. achievement" indicates the coefficient associated with the effect of "V. achievement" on itself. The value 0.363 in the intersection of "V. learning" and "V. learning" indicates the coefficient associated with the effect of "V. learning" on itself. The value 0.039 in the intersection of "Gender x V. learning" and "V. achievement" indicates the coefficient associated with the interaction effect between gender and "V. learning" on "V. achievement". The interaction term "Gender x V. learning" seems to have a positive coefficient of 0.189, indicating that the effect of "V. learning" on the outcome (possibly achievement) is influenced by gender. Specifically, this positive coefficient suggests that the

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relationship between "V. learning" and the outcome is stronger for certain genders compared to others.

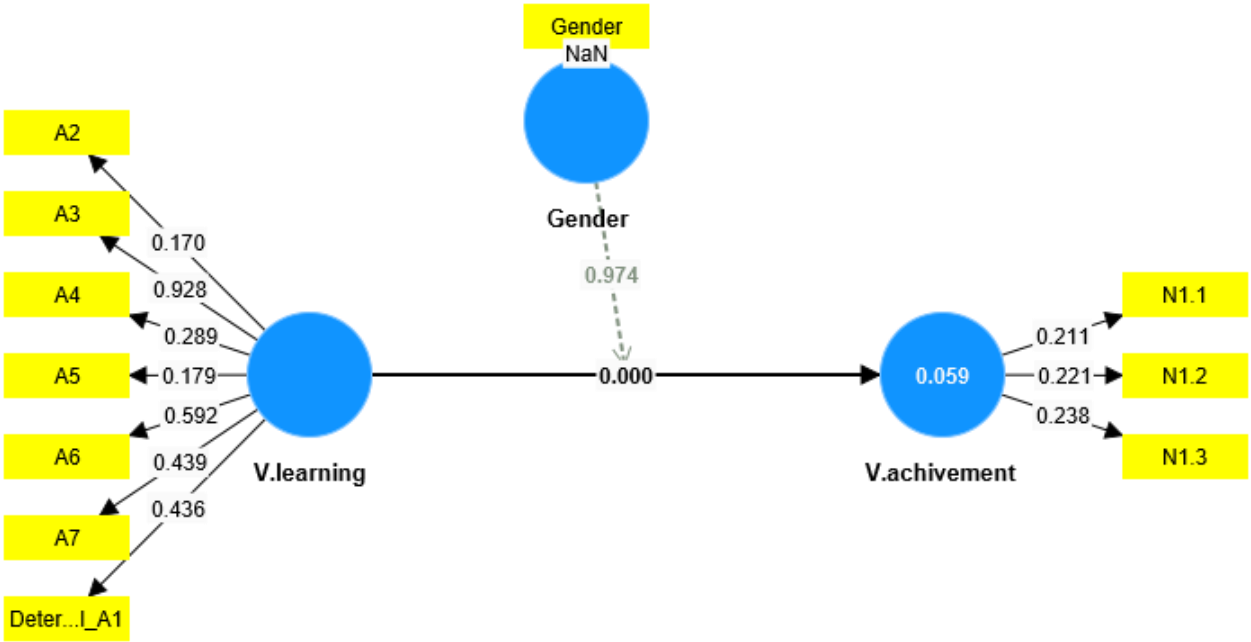
Path coefficient

Table 4.9

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Gender -> V.achivement	0.023	-0.047	0.063	0.357	0.721
V.learning -> V.achivement	-0.243	-0.259	0.068	3.595	0
Gender x V.learning -> V.achivement	0.004	-0.018	0.11	0.033	0.974

P Values: This column shows the p-values associated with the T-statistics. The p-value indicates the probability of observing the data (or more extreme results) under the assumption that the null hypothesis is true. In general, a lower p-value (typically below 0.05) indicates stronger evidence against the null hypothesis, suggesting that the observed effect is statistically significant.
Gender vs. Achievement: The T-statistic is 0.357, which corresponds to a p-value of 0.721. This suggests that there is no statistically significant difference in achievement between genders.
Learning Style vs. Achievement: The T-statistic is 3.595, with a p-value of 0. This indicates a statistically significant difference in achievement based on learning style.
Interaction between Gender and Learning Style on Achievement: The T-statistic is 0.033, with a p-value of 0.974. This suggests that there is no statistically significant interaction effect between gender and learning style on achievement.

Figure 4.7



To analyze moderation effects in Smart PLS, you typically use interaction terms between the independent variable and the moderator variable. However, the values you provided (0.059 for

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vocabulary achievement, 0.363 for vocabulary learning, and 0.974 for gender) seem to be coefficients or path coefficients rather than raw data or scores. In Smart PLS, moderation analysis can be done by introducing interaction terms between the independent variable and the moderator variable and then examining the changes in the relationship between the independent and dependent variables at different levels of the moderator. However, without the raw data or further information on the model, it's not possible to perform a moderation analysis or interpret the coefficients directly.

In general, a coefficient value of 0.974 for gender indicates that gender has a strong effect on the dependent variable when controlling for other variables in the model. However, without knowing the scale of measurement or the specific context of the variables, it's challenging to interpret these values further. If you have access to the raw data, you can create interaction terms between your independent variable (vocabulary learning) and your moderator variable (gender), and then run a regression analysis to examine the moderation effect. Alternatively, you may consult with a statistician for a more detailed analysis.

CONCLUSION

The study aims to investigate the moderating effect of gender on vocabulary learning strategies and vocabulary achievement scores at the tertiary level in Pakistan. It seeks to explore how gender influences the relationship between vocabulary learning strategies employed by students and their vocabulary achievement. The research will involve collecting data from tertiary-level students in Pakistan, focusing on their use of various vocabulary learning strategies and their corresponding vocabulary achievement scores. Statistical analyses, such as regression or moderation analysis, will be employed to examine the interaction between gender and vocabulary learning strategies on vocabulary achievement. In conclusion, this study aimed to investigate the relationship between Vocabulary Learning Strategies (VLS) and Vocabulary Achievement, examine the VLS utilized by high and low achievers, and explore the moderating effect of gender on these strategies. The findings of the study revealed several key insights.

Firstly, there exists a significant relationship between Vocabulary Learning Strategies and Vocabulary Achievement among tertiary-level students in Pakistan. This highlights the importance of understanding and employing effective strategies for vocabulary acquisition to enhance overall language proficiency.

Secondly, the analysis of VLS usage among high and low achievers shed light on the differential approaches to vocabulary learning. High achievers were found to utilize a variety of effective strategies such as contextual learning, mnemonic devices, and regular exposure to authentic language materials. On the other hand, low achievers tended to rely more on rote memorization and less on strategic, context-based approaches. Lastly, the study uncovered the moderating effect of gender on the utilization of Vocabulary Learning Strategies. Gender differences were observed in the adoption and effectiveness of certain strategies, suggesting that gender identity plays a role in shaping individuals' approaches to vocabulary learning. Understanding these gender-related differences is crucial for designing tailored language learning interventions that cater to the diverse needs and preferences of students. This study contributes to our understanding of the complex interplay between Vocabulary Learning Strategies, Vocabulary Achievement, and gender dynamics in tertiary-level education settings. The findings underscore the importance of promoting strategic and contextually-rich vocabulary learning approaches while considering the diverse learning preferences and identities of students.

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ISSN P: 3006-1458
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